UNIVERSITY AND EDUCATIONAL INTELLIGENCE

BERLIN.—No small degree of excitement has been caused in the university circles of Germany by the expulsion of a Privat-docent, Dr. Dühring, from the University of Berlin, not only on account of the great rarity of the occurrence, but on account of the circumstances leading to the act. Dr. Dühring, who has suffered from blindness since the commencement of his pedagogic duties in 1865, has developed, notwithstanding, a remarkable degree of mental activity in a variety of directions, issuing works on political economy, metaphysics, mathematical physics, &c., and attracting a numerous auditory by the radical and unfettered character of his utterances on these subjects. His unsparing denunciation of the more shadowy side of German universities, the system practically in vogue with regard to the appointment of professors, &c., has induced a somewhat wide-spread feeling of bitterness towards him, which has led to an accusation before the university based on the unmeasured personal criticism of his colleagues, especially Prof. Helmholtz, in lately issued works. The expulsion has led to the holding of meetings and issuing of addresses by the more radical portion of the students, who regard the section of the Prussian constitution, "die Wissenschaft und ihre Lehre ist frei" as endangered; and the whole affair has led to a thorough ventilation of the condition of the universities in the press of the empire.

RUSSIA.—The Russian Government expends 2,140,000 roubles (over 300,000*l.*) on its seven universities, of which sum the Moscow University receives the most—425,000 roubles.

SALARIES OF GERMAN PROFESSORS.—From a recent statement with regard to the salaries in the Berlin University, we notice that the two well-known professors of chemistry and physics receive each 1,500*l.* independent of the lecture receipts, while 900*l.* is the salary of a number of other leading professors. These figures are, however, much above the corresponding ones of other German universities.

STRASSBURG.—According to an imperial order the University receives in the future the title "Kaiser Wilhelms Universität." The present attendance—658—shows for the first time since the re-establishment of the University a decrease in the number of students. The faculty embraces 106 professors and privat-docenten. The large anatomical laboratory is approaching completion.

TÜBINGEN.—The present number of students in attendance on the University amounts to 1,103, the largest number attained since its foundation. Extensive preparations are being made for the celebration in August of the 400th year of its existence.

ZURICH.—The University has at present an attendance of 324, of which the majority are in the medical faculty. Of the seventeen female students fourteen study medicine and three philosophy.

SCIENTIFIC SERIALS

THE *Quarterly Journal of Microscopic Science* for July contains several articles of special interest. First is the fourth part of Mr. Archer's *résumé* of recent contributions to our knowledge of "Fresh-water Rhizopoda," in which *Lecythium hyalinum, Chlamidophrys stercorea, Platoum parvum, Gromia paludosa,* and *Cyphoderia truncata* are described and figured.—Following is an abstract of Mr. E. C. Baber's researches on the lymphatics and parenchyma of the thyroid gland of the dog, with illustrations, published at length in the *Philosophical Transactions.*—Dr. Watney also, from the same *Transactions*, gives, with a plate, an account of his study of the minute anatomy of the alimentary canal.—Dr. Angelo Andres describes and figures a new genus and species of *Zoanthina Malacodermata* (*Panceria spongiosa*).—Prof. Franz Boll follows with his "Contributions to the Physiology of Vision, and of the Sensation of Colour."—Mr. A. Sangster has observations on the muscular coat of sweat glands, in which it is shown that the epithelium of the gland rests directly upon the muscle surrounding it.—Dr. Klein contributes a paper on the minute anatomy of the omentum, describing certain bud-like structures occurring on the fenestrated portion, the method of production of the fenestræ, and some points in the formation of the blood-vessels.—Mr. F. Darwin writes on the protrusion of protoplasmic filaments from the glandular hairs on the leaves of the Common Teasel, in which he helps to develop the important principles of the incipient steps in the formation of special organs.—Mr. H. N. Moseley gives notes on the structure of several forms of Land Planarians, with a description of two new genera and several new species, and a list of all species at present known.—Notes and memoranda conclude the number.

Bulletin of the Buffalo (N.Y.) *Society of Natural Sciences*, 1877. This society has published a valuable list of the freshwater fishes of North America by Mr. D. S. Jordan. Mr. M. C. Cooke is contributing a similarly exhaustive list, with references, of the hyphomycetous fungi of the United States.—An interesting paper by Mr. F. S. Dellenbaugh gives some account of the so-called Puebla Indians of the Rocky Mountain region, also known as Shinumos. They were not really of Indian race; they seemed to have died out in consequence of the incursions of the true Indians. The name Moquis, by which seven of their villages are designated, signifies "the dying race." In their retreat before the enemy they occupied the most inaccessible retreats in the cañons, built cliff houses, cultivated minute patches on the cliffs, lived in caves, &c. They appear to have had considerable artistic skill, from the designs, and even paintings, left on sandstone in the walls of houses, &c. The writer urges a careful exploration of all the extant remains of these people, for they are rapidly being destroyed by careless and ignorant settlers.

SOCIETIES AND ACADEMIES

LONDON

Meteorological Society, June 20.—Mr. H. S. Eaton, M.A., president, in the chair.—Henry Hearder and Henry Law, M.Inst.C.E., were elected fellows of the Society.—The following papers were read:—On an improvement in the mechanism of self-recording meteorological instruments, by the Rev. C. J. Taylor. In order to obviate sluggishness in self-recording aneroids and ordinary small-bore mercurial barometers, the author places a small electric bell apparatus, from which the bell has been removed, so that the clapper when in action shall strike on the top of the vertical brass bar on which the recording pencil slides; by this means a very rapid succession of light taps can be administered at a point which affects all the moveable parts of the mechanism.—Results derived from the sunshine records obtained at the Royal Observatory, Greenwich, by means of Campbell's self-registering sun-dial, during the year ending April, 1877, by W. Ellis, F.R.A.S. The instrument consists of a very accurately-formed sphere of glass four inches in diameter, supported concentrically within a well-turned hemispherical metal bowl in such a manner that the image of the sun formed when the sun shines falls always on the concave surface of the bowl. A strip of some material being fixed in the bowl, the sun, when shining, burns away the material at the points at which the image successively falls, by which means a record of periods of sunshine is obtained. The duration of sunshine in hours for each month of the year ending April 30 (excepting from May 1 to 6, July 31, and October 27 to 31), was as follows:—

	hrs.		hrs.		hrs.		hrs.
May	152·3	Aug.	216·9	Nov.	35·9	Feb.	36·4
June	184·5	Sept.	106·1	Dec.	6·5	Mar.	99·3
July	214·3	Oct.	47·3	Jan.	18·7	Apr.	71·8

The greatest daily duration was 13·9 hrs. on June 11, daily durations exceeding 10 hrs. occurred six times in May, eight in June, ten in July, and eleven in August. One of the most remarkable periods was August 7 to 14, the duration having exceeded ten hours on every day during this time. It appears that in the months of August, September, and October, the mean maximum and minimum temperatures were both, on the average, higher on days of greater sunshine than on days of lesser sunshine, whilst in the months of January and February, an exactly opposite condition existed. In the remaining months the mean maximum temperature of the greater sunshine group was higher, and its mean minimum lower, than the corresponding mean maximum and minimum temperatures of the lesser sunshine group. It also appears that there was more sunshine after noon than before noon in every month, except August, March, and April.—On the diurnal variation of the barometer at the Royal Observatory, Greenwich, by W. Ellis, F.R.A.S. The Astronomer-Royal having communicated the numerical values of the variations of the barometer as deduced from the photographic records at the Royal Observatory, during the twenty years ending

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1873, the author adds a few general remarks thereon. Comparing together the different months of the year, it is observed that the morning minimum and the forenoon maximum both occur earlier as the year advances; they are earliest in summer, and become later again on the approach of winter. The afternoon minimum and evening maximum, on the contrary, occur later as the year advances; are latest in summer, and become earlier again towards the end of the year. They all change in a certain degree with the changes in the times of sunrise and sunset. As a consequence of this the intervals between the morning minimum and the forenoon maximum, and between the afternoon minimum and evening maximum do not change very much through the year, whilst that between the forenoon maximum and afternoon minimum is much shorter in winter than in summer, and that between the evening maximum and morning minimum is much longer in winter than in summer.—On the rainfall of Jamaica during the seven years 1870-76, by Griffith N. Cox.—Contributions to the meteorology of Cannes, by William Marcet, F.R.S.—Mr. Marriott exhibited and described Bogen's hygrometer and new standard siphon barometer. The barometer possesses the following special features:—It is so constructed that it can easily be put together and taken to pieces again. The long leg consists of a tube of the same diameter throughout, and is supplied with a glass stopper which has a very fine bore passing through its centre, enabling one to fill the tube with mercury in one or two minutes and to completely exhaust it of air in one or two minutes more. The open end of the long leg is ground air-tight to the short (curved) leg and can be instantaneously put together or separated. The long tube alone is graduated so as to have only one scale, but by a peculiarly-constructed screw of given length placed on the short tube a precise and accurate reading can be easily obtained. The barometer is mounted on a peculiarly-shaped stand which has three adjusting screws by means of which the perpendicularity of the instrument can be ensured.

PARIS

Academy of Sciences, July 16.—M. Peligot in the chair.—The following papers were read:—Anthrax and septicæmia, by MM. Pasteur and Joubert. Anthrax may be called the disease of (what the authors call) *bacteridie*, as trichinosis is the disease of the trichina. The blood of a healthy animal contains neither microscopic organisms nor their germs. That of an animal having anthrax contains no organisms but the *bacteridie*, which is aerobic, so that the anthracic blood is imputrescible of itself. In the carcase the blood putrefies through vibrios lodging in it. The *bacteridie* disappears in liquid, in presence of CO_2. It is a mistake that putrefaction, as such, destroys the anthracic virulence. The development of the *bacteridie* takes place difficultly when in the presence of other organisms. These observations the authors apply to certain facts of practical experience. They state that septicæmia is produced by a *vibrionien* as anthrax is by a *bacteridie*.—Experiments, according to which the fragmentary form of meteoric irons may be attributed to a rupture under the action of strongly compressed gases, such as arise from explosion of dynamite, by M. Daubrée. To steel prisms were attached charges of dynamite, which were exploded in clay pits, so that the parts could be brought together after rupture. The alveoli produced (often grouped) with projecting rim, were of more pronounced character than those from powder. The surface was sometimes raised in long bulging ridges. The surfaces of fracture were some of them polished, others striated.—Researches on the tertiary strata of Southern Europe, by M. Hebert. This first paper relates to the eocene and lower miocene of Hungary.—M. Dumas, referring to a recent paper by M. Sée, affirmed that the real inventor of salicylic acid was the eminent Italian chemist M. Piria.—On a disease of the grape in the vineyards of Narbonne (June and July, 1877), by M. Garcin.—Observations of D'Arrest's periodic comet at the Marseilles Observatory, by M. Stephan.—Note on the theory of quadratic forms with any number of variables, by M. Frobenius.—Demonstration of two geometric laws enunciated by M. Chasles, by M. Fouret.—On the division of the circumference into equal parts, by M. Lucas.—Researches on the compressibility of liquids (continued), by M. Amagat. *Inter alia*, the coefficient of compressibility increases when the pressure increases for all liquids in which it increases with the temperature. The compressibility of successive terms of the family of formenic carburets decreases regularly as we descend in the series, both at 100° and at ordinary temperature. The presence of sulphur, chlorine, or bromine, in liquid bodies, tends to render them less compressible.—On the electric and capillary properties of mercury in contact with different aqueous solutions, by M. Lippmann. When mercury is in contact with pure or acidulated water, the addition of a small quantity of certain substances to the water changes notably the capillary constant and the electromotive force. M. Lippmann proves that for each value of the latter the capillary constant has one, and only one, determinate value independent of the chemical composition of the liquid. That is, if for two different combinations the electromotive force is the same, the capillary constant is also the same.—On the vapours of alcoholate of chloral, by M. Troost.—Action of light on hydriodic acid, by M. Lemoine. Hydrogen and iodine do not sensibly combine in the cold state under the influence of light. It may be inferred that the decomposition of hydriodic acid by the sun is unlimited. The slow decomposition in light might be used to measure the degree of illumination of the sky in large meteorological observatories. In a month of insolation in the cold state 0·80 of gaseous hydriodic acid is decomposed, whereas heating one month at 265° decomposes only 0·02, and even at 440° during a few hours, only 0·20.—Note on a new derivative of indigotine, by M. Schutzenberger.—On the properties of resorcine; thermochemical studies, by M. Calderon.—On the reform of some processes of analysis used in the laboratories of agricultural stations and observatories of chemical meteorology; second memoir, acidimetry, by M. Houzeau.—On the nature of acids contained in the gastric juice (continued), by M. Richet. There is in gastric juice an organic acid soluble in ether, and it is probably sarcolactic acid.—Note on numeration of blood corpuscles in diphtheritis, by MM. Bouchut and Dubrisay. In this disease there is a considerable increase in the number of white corpuscles, and a diminution of that of the red.—On the influence of excitations of organs of sense on the heart and the vessels, by MM. Couty and Charpentier. Such phenomena seem to be produced, not by the sensorial perception itself but by an ulterior cerebral work which might be called *emotional*.—Experiments proving that neither pure air nor oxygen destroy the septicity of putrefied blood, by M. Feltz.—Researches on a case of congenital ectopia of the heart, by M. François-Franck.

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